

What is Claimed:

1. A storage container comprising:
a container portion comprising a bottom panel connected to and disposed
between two opposing bottom side corner sections and two opposing bottom end
5 corner sections, each bottom side corner section connecting the bottom panel to one of
two opposing side panels, each bottom end corner section connecting the bottom
panel to one of two opposing end panels, each side panel being disposed between and
connected to the end panels by one of four vertical corner sections to form an open
top box structure with an interior cargo space and a continuous upper rim,
10 the four vertical corner sections having an average thickness greater than an
average thickness of at least one of the end panels or the side panels.
2. The storage container of claim 1 wherein the four vertical corner sections
have an average thickness greater than an average thickness of the side panels and an
15 average thickness of the end panels.
3. The storage container of claim 1 wherein the average thickness of the four
vertical corner sections is greater than an average thickness of the bottom panel.
- 20 4. The storage container of claim 1 wherein an average thickness of the four
vertical corner sections is less than an average thickness of four bottom corner
junctions where each vertical corner sections meets one of the bottom end corner
sections and one of the bottom side corner sections.
- 25 5. The storage container of claim 1 wherein the container portion is formed by
a co-extrusion blow molding process.
6. The storage container of claim 1 wherein each of the end panels further
comprises a handle, each handle having an average thickness greater than the average
30 thickness of at least one of the end or side panels.
7. The storage container of claim 1 wherein each of the end panels further
comprises a handle, each handle having an average thickness greater than the average
thickness of the end panels and the side panels.

8. The storage container of claim 1 further comprising a lid, the lid comprising a top panel disposed between and connected to two opposing top side corner sections and two opposing top end corner sections, each top side corner section connecting the top panel to one of two opposing top side panels, each top end corner section connecting the top panel to one of two opposing top end panels, each top side panel being disposed between and connected to the top end panels by one of four top vertical corner sections to form a continuous rim for engaging the upper rim of the container portion,

the four vertical top corner sections having an average thickness greater than an average thickness of at least one of the top end panels or top side panels.

9. The storage container of claim 8 wherein the four vertical top corner sections have an average thickness greater than an average thickness both the top end panels and top side panels.

10. The storage container of claim 8 wherein the average thickness of the four top vertical corner sections is greater than an average thickness of the top panel.

11. The storage container of claim 8 wherein an average thickness of the four top vertical corner sections is less than an average thickness of four top corner junctions where each top vertical corner sections meets one of the top end corner sections and one of the top side corner sections.

12. The storage container of claim 8 wherein the lid is formed by a co-extrusion blow molding process.

13. A method manufacturing a three dimensional reusable storage container, the method comprising:

providing a parison of polymeric material;

providing a mold comprising a cavity defining a container portion comprising
5 a bottom panel connected to and disposed between two opposing bottom side corner sections and two opposing bottom end corner sections, each bottom side corner section connecting the bottom panel to one of two opposing side panels, each bottom end corner section connecting the bottom panel to one of two opposing end panels, each side panel being disposed between and connected to the end panels by one of
10 four vertical corner sections to form an open top box structure with an interior cargo space and a continuous upper rim;

providing an adjustable annular die comprising an outer peripheral surface and an inner peripheral surface with a gap disposed therebetween for extruding the parison, the gap being non-uniform in radial width between the inner and outer
15 peripheral surfaces, the gap also defining an annular cross sectional area, the annular cross sectional area being expandable and contractible by moving the outer peripheral surface closer to the inner peripheral surface or vice versa,

opening the mold;

extruding the parison through the die while moving the outer peripheral
20 surface of the die closer to the inner peripheral surface of the die or vice versa so that a plurality of cross sections of the parison have a non-uniform thickness and further so that the thickness of the parison is non-uniform along an extruded length of the parison;

closing the mold;

25 inflating the parison against the cavity of the mold so that the four vertical corner sections have an average thickness greater than an average thickness of at least one of the end panels or side panels.

14. The method of claim 13 wherein the inflating of the parison against the
30 cavity of the mold results in the four vertical corner sections having an average thickness greater than an average thickness of the end panels and greater than an average thickness of the side panels.

15. The method of claim 13 wherein the inflating of the parison further results in the average thickness of the four vertical corner sections being greater than an average thickness of the bottom panel.

5 16. The method of claim 13 wherein the inflating of the parison further results in an average thickness of the four vertical corner sections being less than an average thickness of four bottom corner junctions where each vertical corner sections meets one of the bottom end corner sections and one of the bottom side corner sections.

10 17. The method of claim 13 wherein the mold cavity further defines handles disposed on each of the end panels, and wherein the inflating of the parison further results in each handle having an average thickness greater than the average thickness of the end and side panels.

15 18. The method of claim 13 wherein the mold cavity further defines a lid, the lid comprising a top panel disposed between and connected to two opposing top side corner sections and two opposing top end corner sections, each top side corner section connecting the top panel to one of two opposing top side panels, each top end corner section connecting the top panel to one of two opposing top end panels, each top side
20 panel being disposed between and connected to the top end panels by one of four top vertical corner sections to form a continuous rim for engaging the upper rim of the container portion,

 wherein the inflating of the parison further results in the four vertical top corner sections having an average thickness greater than an average thickness of at
25 least one of the top end panels or top side panels.

 19. The method of claim 18 wherein the inflating of the parison further results in the four vertical top corner sections having an average thickness greater than an average thickness of the top end panels and greater than an average thickness of the
30 top side panels.

 20. The method of claim 18 wherein the inflating of the parison further results in the average thickness of the four top vertical corner sections being greater than an average thickness of the top panel.

21. The method of claim 18 wherein the inflating of the parison further results in an average thickness of the four top vertical corner sections being less than an average thickness of four top corner junctions where each top vertical corner sections meets one of the top end corner sections and one of the top side corner sections.

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22. A lid for a storage container, the lid comprising:

a top panel disposed between and connected to two opposing top side corner sections and two opposing top end corner sections, each top side corner section connecting the top panel to one of two opposing top side panels, each top end corner section connecting the top panel to one of two opposing top end panels, each top side panel being disposed between and connected to the top end panels by one of four top vertical corner sections to form a continuous rim,

the four vertical top corner sections having an average thickness greater than an average thickness of at least one of the top end panels or top side panels.

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23. The lid of claim 22 wherein the four vertical top corner sections have an average thickness greater than an average thickness both the top end panels and top side panels.

24. The lid of claim 22 wherein the average thickness of the four top vertical corner sections is greater than an average thickness of the top panel.

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25. The lid of claim 22 wherein an average thickness of the four top vertical corner sections is less than an average thickness of four top corner junctions where each top vertical corner sections meets one of the top end corner sections and one of the top side corner sections.

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26. The lid of claim 22 wherein the lid is formed by a co-extrusion blow molding process.

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27. A method manufacturing a lid for a three dimensional reusable storage container, the method comprising:

providing a parison of polymeric material;

providing a mold comprising a cavity defining a lid, the lid comprising a top panel disposed between and connected to two opposing top side corner sections and two opposing top end corner sections, each top side corner section connecting the top panel to one of two opposing top side panels, each top end corner section connecting the top panel to one of two opposing top end panels, each top side panel being disposed between and connected to the top end panels by one of four top vertical corner sections to form a continuous rim;

providing an adjustable annular die comprising an outer peripheral surface and an inner peripheral surface with a gap disposed therebetween for extruding the parison, the gap being non-uniform in radial width between the inner and outer peripheral surfaces, the gap also defining an annular cross sectional area, the annular cross sectional area being expandable and contractible by moving the outer peripheral surface closer to the inner peripheral surface or vice versa,

opening the mold;

extruding the parison through the die while moving the outer peripheral surface of the die closer to the inner peripheral surface of the die or vice versa so that a plurality of cross sections of the parison have a non-uniform thickness and further so that the thickness of the parison is non-uniform along an extruded length of the parison;

closing the mold;

inflating the parison against the cavity of the mold so that the four vertical top corner sections having an average thickness greater than an average thickness of at least one of the top end panels or top side panels.

28. The method of claim 27 wherein the inflating of the parison further results in the four vertical top corner sections having an average thickness greater than an average thickness of the top end panels and greater than an average thickness of the top side panels.

29. The method of claim 27 wherein the inflating of the parison further results in the average thickness of the four top vertical corner sections being greater than an average thickness of the top panel.

5 30. The method of claim 27 wherein the inflating of the parison further results in an average thickness of the four top vertical corner sections being less than an average thickness of four top corner junctions where each top vertical corner sections meets one of the top end corner sections and one of the top side corner sections.

10 31. A adjustable die for extruding a parison, the die comprising:
an outer peripheral surface and an inner peripheral surface with a gap disposed therebetween for extruding the parison, the gap being non-uniform in radial width between the inner and outer peripheral surfaces, the gap also defining an annular cross sectional area, the annular cross sectional area being expandable and contractible by
15 moving the outer peripheral surface closer to the inner peripheral surface or vice versa.

32. The adjustable die of claim 31 wherein the outer peripheral surface of the die is expandable and contractible.